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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,054	03/25/2004	David M. Chickering	MS192074.1 / MSFTP575US	6980
27195	7590	05/03/2007	EXAMINER	
AMIN. TUROCY & CALVIN, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			ROBINSON, GRETA LEE	
			ART UNIT	PAPER NUMBER
			2168	
			MAIL DATE	DELIVERY MODE
			05/03/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Notice of Allowability

Application No.

10/809,054

Examiner

Greta L. Robinson

Applicant(s)

CHICKERING, DAVID M.

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## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an amendment filed February 23, 2007.
2. ☒ The allowed claim(s) is/are 1,3-10,12-23,28 and 29 (now renumbered as claims 1-23).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20070301.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Marisa Zink (registration no. 48,064) on March 01, 2007.

2. The application has been amended as follows:

1. (Currently Amended) A system comprising a computer processor for executing the following software components, the system facilitates learning Bayesian networks with local distributions, where at least one distribution is not a complete table, the system is recorded on a computer-readable storage medium and capable of execution by a computer, comprising:

a complete data set;

a Bayesian network constructor component that constructs a complete-table Bayesian network to represent local distributions of data in the complete data set and employs a learning algorithm that can reverse edges in the complete-table Bayesian network to facilitate learning a decision-tree Bayesian network, the Bayesian network constructor component further ~~analyses~~ analyzes

a directed graph that results from the complete-table Bayesian network to determine a partial ordering of the complete-table Bayesian network; and wherein the Bayesian network constructor component analyzes the complete data set and the complete-table Bayesian network using a search algorithm to identify other potential arrangements of edges within the Bayesian network and compares the other arrangements to the partial ordering of the complete-table Bayesian network.

3. The following is an examiner's statement of reasons for allowance:

Applicant's amendment amending claims 1, 10 and 29 overcomes the rejections cited under 35 USC 101 and 35 USC 112 second paragraph. The amendment cancelled claims 24-27, therefore the rejections cited under 35 USC 102(b) Hulten et al. and 35 USC 102(e) Pelikan et al. are moot. The prior art of record fails to teach the limitations of independent claims 1, 10 and 29. Specifically regarding independent claim 1, the following limitation with respect to learning Bayesian networks with local distributions where at least one distribution is not a complete table is not disclosed as cited: "a Bayesian network constructor component that constructs a complete-table Bayesian network to represent local distributions of data in the complete data set and employs a learning algorithm that can reverse edges in the complete-table Bayesian network to facilitate learning a decision-tree Bayesian network, the Bayesian network constructor component further analyzes a directed graph that results from the complete-table Bayesian network to determine a partial ordering of the complete-table Bayesian

network". Regarding independent claim 10, the following limitation is not taught as claimed: "learning a second Bayesian network that comprises a distribution with at least one non-complete-table-distribution; learning the first Bayesian network comprises employing a search algorithm that can reverse the edges in the complete-table Bayesian network; and displaying results of learning the first and second Bayesian networks". Regarding independent claim 29, the following limitation is not taught in the prior art: "means for learning a Bayesian network with at least one-complete-table distribution, whereby local distributions are constructed in accordance with constraints imposed by a partial order of the directed acyclic graph of the complete-table Bayesian net; means for learning the Bayesian network comprises employing a search algorithm that can reverse edges in the complete-table Bayesian network; and means for displaying results of learning the Bayesian network".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

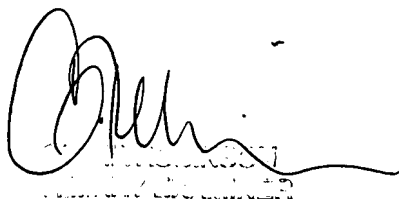
### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greta L. Robinson whose telephone number is (571)272-4118. The examiner can normally be reached on M-F 9:30AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Greta Robinson', with a long horizontal flourish extending to the right.

Greta Robinson  
Primary Examiner  
March 1, 2007